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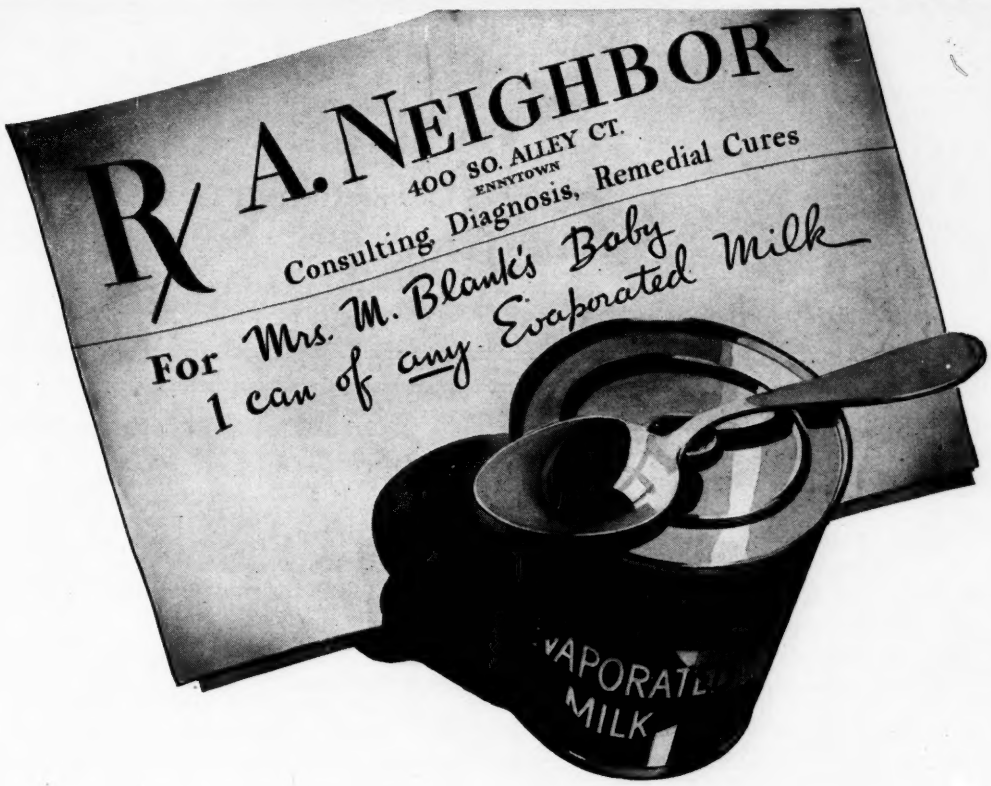

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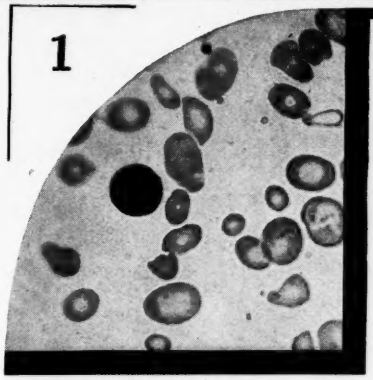
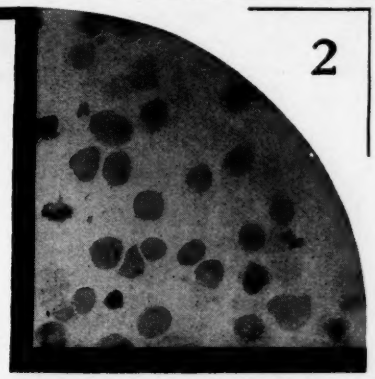


At left—Pernicious Anemia pretreatment level. R. B. C. 820,000 per cu. mm.; Hb. 17%. Started Ventriculin 40 Gm. daily.

At right—Fourth day of treatment. Reticulocytes 54%; R. B. C. 1,120,000 per cu. mm.; Hb. 24%.



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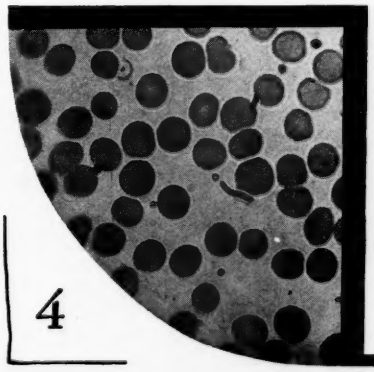
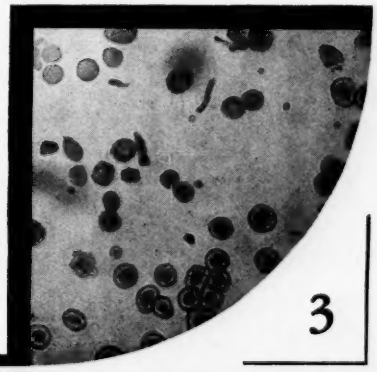


At right—Seventeenth day of treatment. R.B.C. 2,440,000 per cu. mm.; Hb. 56%.

At left—Sixty-sixth day of treatment. R.B.C. 4,610,000 per cu. mm.; Hb. 84%.



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ORIGINAL ARTICLES

AVERTIN ANESTHESIA—A METHOD OF FRACTIONAL ADMINISTRATION*

By MEYER SAKLAD, M.D.,
2 EUCLID AVE., PROVIDENCE, R. I.

It is but a few years since Avertin (tribromethylalcohol) was added to the list of known anesthetic agents. In these few years it has constantly gained favor and has earned for itself the right to be classified as a useful anesthetic agent. It has even been asserted[13] that anesthesia produced by this agent approaches the ideal more closely than that of any other.

When first employed, an incomplete understanding of its physiological response, dosage, preparation and indications led to fatal complications in several instances. Recent studies of its action on bodily structures, an increasing knowledge of its indications and contraindications and a better understanding of the types of patients susceptible and resistant to its action are gradually making it a safer anesthetic agent and widening its sphere of usefulness.

It is the purpose of this paper:

First, to review some of the reactions of this agent on bodily structures.

Second, to consider the advantages and disadvantages of both the agent and its present mode of administration.

Third, to offer a method of fractional administration of this agent not unmindful of the precautions to be maintained in its safe administration.

Fourth, to review a series of cases in which this procedure was employed for the production of surgical anesthesia.

Tribromethylalcohol, CBr_3CH_2OH, a crystalline powder, is commercially available as "Avertin Fluid," a solution of tribromethylalcohol in amylene hydrate, containing one gram of the crystals per cubic centimeter of the solution. This solution is unstable. If heated much above 40 degrees centigrade decomposition readily takes place. Hydrobromic acid is split off and dibromacetaldehyde is produced.

$$CBr_3 . CH_2OH - Hbr = CBr_2:CHOH = CHBr_3 . CHO$$

Dibromacetaldehyde, even in small concentrations, is an exceedingly irritating substance. Its presence in the anesthetic agent will lead to damage of the mucous membrane lining the lower bowel, since this agent is administered by rectum.

The presence or absence of dibromacetaldehyde in the anesthetic solution can readily be determined by testing against a 1-1000 solution of congo red. The change to a blue color in the test solution establishes the presence of this irritating substance and renders the solution dangerous to use. Since it is necessary that the solution be heated previous to administration it is important that this precaution be made an integral part of the technique of administration.

The solution, if allowed to cool, may result in crystalline precipitation. Precaution should therefor also be exercised to prevent this occurrence.

Action of Avertin on Bodily Structures

Blood: Avertin has but little action on the blood chemistry. In this it compares very favorably with the inhalation anesthetics. It causes no change in the non-protein nitrogen, urea nitrogen and creatinine content of the blood[21]. In these it is in marked contrast to the action of ether on the blood constituents. Its action on the carbon dioxide combining power has been reported as from no change[21, 4, 3] to but slight alteration if there is any interference with respiration.[5, 7] The action of avertin on the blood sugar is slight.[3] There occurs a small rise in the early stages of the anesthesia. The normal level is reached, however, before the anesthesia is over.[4] In its action on the blood sugar it may also be contrasted with ether. Ether causes a marked and sustained rise.

Liver: Avertin, because its structural formula is very much like that of chloroform, has led many to believe that liver damage may be expected to follow its administration. Studies[6] show that avertin has by no means the same damaging effect upon the liver as chloroform. There exists no dye retention

*Read before the Rhode Island Medical Society, June 2, 1932.

after its administration[5] and the harm done to the normal liver is negligible. In this it compares favorably with sodium amytal.[7] In an animal previously poisoned with chloroform it may cause added liver damage.[6]

Kidneys: Avertin after detoxication is eliminated through the kidneys. Its action on kidney structure is therefore important. Avertin causes marked kidney suppression in the dog but much less in man.[7] In the human, avertin depresses kidney function temporarily, and to a very small extent. This kidney depression recovers in from four to six hours.[5]

Heart: The toxicity of avertin on heart musculature is low, about one-sixteenth that of chloroform.[16] Electrocardiographic studies show that with the ordinary anesthetic dose there is no appreciable change in the conduction mechanism.[9] Avertin, in concentrations much higher than are found in normal avertin anesthesia in man, produces no deleterious effects upon the heart. The pulse rate is not much altered. Marked alteration in the pulse rate is usually the result of operative trauma or loss of blood.

Blood Pressure: A fall in blood pressure is characteristic of the anesthesia. The blood pressure-pulse rate ratio is usually undisturbed. The amount of fall in blood pressure is variously reported as 10 m.m.[2] 10-20 m.m.[11] with an occasional higher figure noted. Goldschmidt and Hunt[3] report the fall in systolic pressure in man as 19 m.m. and in women as 28 m.m. Hg. The fall in blood pressure may to a large degree be avoided by a slow administration.

Respiration: A depressed respiration is also characteristic of the drug. The degree of respiratory depression varies with the depth of narcosis. Respiration is usually shallow, although Eichholtz found that although the respiratory rate was markedly decreased during the anesthesia, the minute volume remained essentially the same. The respiratory mechanism responds readily to carbon-dioxide if the patient is not overdosed.

Dosage

In using the commonly employed single dose method, the most difficult and most important decision to be made concerns the size of the dose to be administered. There is no universally accepted scale of dosage. The dosage is based on body weight. Calculation of dosage according to body weight is only an approximate guide, since patients differ greatly in their reaction to the agent. Some patients are susceptible, others resistant, to its action. Debilitated, obese, pregnant and dehydrated patients present a problem in as much as the weight as an index of dosage is obviously undependable. Children and young adults require larger doses than the average. Patients with toxic thyroid disease can tolerate larger doses than the usual run of patients; those with subnormal metabolic rates tolerate less. It has been my experience that the same patient on successive operations for the same condition may require widely varied amounts of avertin to give the same depth of anesthesia.

Recommended doses vary as to the degree of narcosis desired by the reporters. For basal narcosis, doses of 80 to 100 milligrams per kilo are recommended.[10, 24] Goldschmidt and Hunt report that, employing this dose for basal narcosis, full surgical anesthesia was obtained in 24% of the cases. Doses of 130 milligrams per kilo are employed at the University Clinic at Hamburg-Eppendorf. Guttman[11] in employing the 130 milligram dose finds that 80% of the patients require no supplementary anesthesia. Balaam[1] employs doses of 130-150 milligrams per kilogram of body weight.

It is because of the universal dissatisfaction for a single dose method of any toxic drug, particularly an anesthetic agent, and because of the impossibility to determine beforehand a dose of avertin that would accurately produce a predetermined depth of anesthesia that I feel that the future of avertin as an anesthetic agent depends on the ability to make it more controllable than it now is. To this end I feel that a method of fractional administration is of value.

Preparation and Administration

Preparation of the Patient: The patient is weighed on the day previous to the scheduled operation. In the early morning of the operation he receives cleansing enemas. One hour before operation a small dose of morphia, usually gr. ⅛, is administered. I feel that large doses of morphia, barbiturates or scopolamine asociated with avertin are of some danger. Atropine is not given with the morphia.

Preparation of the Solution: The patient's weight is noted, and a volume of distilled water is taken that will make a 2½% solution containing 130 milligrams per kilogram of body weight. This is measured out in a previously graduated three

neck Woulff bottle, with centigrade thermometer through its center neck. The temperature of the solution is brought to 38 degrees centigrade by placing it in a basin or under a stream of warm water. The correct amount of avertin is then pippetted in. The two lateral necks of the bottle are covered by the thumbs of either hand and the bottle shaken until the entire avertin fluid is taken up in solution. Sufficient 1-1000 congo red is added to the anesthetic solution to give it a decided reddish color. The presence of this reddish color proves that the solution has remained stable and is safe to use. The presence of a bluish color demands that the entire solution be discarded and a new solution be prepared. I feel that the addition of congo red to the entire solution and not to a small amount, as a side test tube determination, is an important feature, since in long continued operations it may be necessary to reinforce the anesthesia by a second or third administration of the agent.

In this way the surgeon, anesthetist and operating room personnel think of avertin as a pink solution and any change in its color would be sufficient cause for comment. The Woulff bottle is then placed in an electrically controlled water bath, with accurately adjusted thermostat control set for 38 degrees centigrade. Thus we have protected our solution against disintegration and precipitation.

In one neck of the Woulff bottle is placed a rubber stopper containing a right angle piece of glass tubing which extends through the lower end of the stopper for about one-half inch. To the other end of the glass tubing is firmly attached a 12-inch piece of rubber tubing with a hand bulb. In the neck on the opposite side is placed a rubber stopper with a right angle piece of glass tubing which extends down to almost the bottom of the bottle. The delivery tubing is attached to the other end of this glass tubing.

Administration is begun 15 to 20 minutes before the scheduled operation. The patient is brought to the anesthetizing or operating room. The administration is given with the patient in dorsal position. A well lubricated catheter of moderate size is passed up into the patient's rectum for a distance of about four inches. The proximal end is carried up over the patient's groin. The air in the delivery system is expelled by means of compressing the hand bulb. The delivery tube is then hooked up with the catheter by means of a glass connecting tube.

An amount of solution equivalent to 80 milligrams per kilogram of body weight is slowly passed into the patient's rectum by compressing the hand bulb. Blood pressure, pulse, and respiratory rate determinations are taken and recorded at frequent intervals. A period of 10 minutes is allowed to elapse, at which time the effect of the solution is noted. An amount of solution equivalent to 10 milligrams per kilogram is then injected and repeated every five minutes until the desired depth is obtained. The problem as to the exact point at which to stop the injection of the drug is a difficult one for the anesthetist. The stages of anesthesia are not definite and merge one into the other with no distinguishing features. The depth of anesthesia must be anticipated since absorption from the rectum is slow compared with pulmonary absorption. Injection of the drug must stop at a point before the level desired for the operation is attained. The action of the agent on the blood pressure, respiration and reflexes all act as an index to the depth of anesthesia. Loss of the lid reflex is probably the most important single guide.

The induction period is more comfortable and peaceful than that of any other anesthetic agent we have. There is no period of excitement. The patient undergoes no period of laryngospasm, sense of suffocation or distress. One can hope for no better induction from any other agent that we have now or may ever have.

The anesthetist must pay close attention to the respiration of the patient. A free airway must be maintained at all times. At the first sign of diminution in the rate or depth of respiration a stream of a mixture of 10% carbon dioxide in oxygen should be delivered to the patient's oral cavity by means of a mouth hook or better still by an intranasal catheter, extending well down into the pharynx. The administration of these gases is continued throughout the period the patient is in the operating room and is a routine practice with me.

Muscular relaxation is considerably better than that obtained by the use of either nitrous oxide or ethylene, but not as complete as that which occurs under a well conducted ether anesthesia. The lid reflex is soon abolished. The pharyngeal reflex is abolished early, but the laryngeal reflex disappears only with excessive dosage.[24] Waters[24] feels that this is an important and valuable feature. One can readily see that the persistence of a laryngeal reflex would probably be of value, particularly in surgery

involving the naso-pharynx. The skin reflex is late to go. It is well to remember this. It has been my experience that patients seemingly deep enough for operation, as for mastoid, might slightly rouse, wince, or strain at the skin incision and closure. Between these periods the patient would be in a profound slumber. Rather than push the patient deeper it is probably better judgment to administer enough gas to keep them quiet during these unwelcome periods. In certain conditions a simple skin infiltration of a weak solution of novocaine may suffice and be better judgment.

Cyanosis is unusual and if it does occur means an obstructed airway. The fall in blood pressure that occurs has already been stated. This fall occurs early in the anesthesia and soon levels off and seldom offers cause for alarm.

The period of anesthesia lasts from about one to one and one-half hours. If it is necessary to prolong the anesthesia an added amount of the anesthetic solution may be injected at the first sign of lightened anesthesia. Here too is it necessary to anticipate. The added solution must not be injected too rapidly or in too great an amount, for it takes but little more to deepen the level of anesthesia. One must give the solution sufficient time to become absorbed before allowing one's self to continue the administration of added agent.

During anesthesia there occurs but little loss of body fluid by perspiration, particularly as compared with ether anesthesia.

The recovery period is usually without incident. The period of amnesia is a lengthy one and may extend late into the day. Consciousness is attained gradually and almost invariably without excitement, although there was one patient in the series to be reported who had to be restrained.

By effects such as nausea and vomiting are almost entirely absent and occur only if blood has been swallowed. Post-operative nursing care is very important. The patient should not be allowed to be alone since these patients are prone to develop a respiratory obstruction from a dropped jaw or relaxed tongue. Nurses should be instructed in means to prevent or treat such occurrences. The use of a nasal catheter in these conditions is valuable.

Various agents have been recommended to shorten the period of anesthesia. Ephedrine at this time seems to be the most promising in this regard. Experiments on dogs and observations in man[19, 22, 6] show that rectal anesthesia with avertin may be interrupted or considerably shortened by the administration of ephedrine. This property of ephedrine is of value clinically in overcoming too profound avertin anesthesia. It is inadvisable to employ adrenalin as one would ephedrine for detoxication purposes, since it has been shown that adrenalin in avertin anesthesia produces cardiac irregularity and experimentally, employing a heart-lung preparation, occasionally causes ventricular fibrillation.[19] Bourne and Raginsky recommend ephedrine in dosage of lmgm./kilo intravenously. Spiedel[20] feels that the period of anesthesia may be shortened by the administration of caffeine sodium benzoate. It is a common observation that patients with toxic thyroid disease have a high tolerance for avertin. This has led to the use of thyroxin as a detoxicating agent.[17]

Indications: As a basal anesthetic agent it may be used with any other type of anesthesia, with perhaps spinal anesthesia the only exception. There is no literature to my knowledge that deals with the use of avertin with spinal anesthesia. I feel that because of the action of avertin on blood pressure it would not be wise to superimpose another agent to cause an added fall in blood pressure.

As an anesthetic agent in itself and not to be supplemented, it is indicated in operations in which extreme depth of anesthesia is not desired and where profound relaxation is not needed. Thus it is limited to operations about the head and neck, thorax, extremities, and extra-peritoneal operations. In particular it is indicated in electro-surgery of and about the upper respiratory passages, naso-pharyngeal surgery, bronchoscopy, and esophagoscopy. Dandy[8] feels that it is indicated in brain surgery because it eliminates three conditions associated with other anesthetic agents: swelling of the brain, post-operative vomiting and pneumonia.

Contra-indications: Since the agent is detoxicated in the liver and excreted through the kidneys, severe disease of these organs constitute a contra-indication. Avertin can probably be used quite safely in patients with moderate liver damage, though it is best to use smaller dosage.[6] It is also contra-indicated in shock, debility, severe acidosis and advanced cachexia. Patients with deficient thyroid secretion eliminate the drug slowly, thus it is contra-indicated in patients with low basal metabolism. It may sometimes be wise to determine the basal metabolism in questionable patients.

Dangers: Anesthesia obtained with tribromethanol in animals indicates that the drug has approximately the same margin of safety as other drugs commonly used in the production of general anesthesia. Avertin is said to be less toxic than ether.[12] It has no cumulative action and can be repeated with safety. Huntington[14] administered to a boy of eleven suffering with tetanus 100 mgm./kilo. and then 80 mgm./kilo twice a day for ten days and then once a day for a few days with no bad effects.

The anesthetic dose is approximately from two-thirds to three-fourths of the fatal dose.[24] The degree of anesthetic risk is variously given as 1:7500[18] and 3:10,1000.[11, 15] It is the author's opinion that most of the fatalities recorded in the literature were the result of either improper preparation of the solution with resulting damage to the mucous membrane lining the rectum and colon, or the flooding of a susceptible patient with a toxic dose by using the predetermined single dose method.

Report of Cases

The series here reported totals eighty-three administrations. This series includes only those in which full surgical anesthesia was attempted by fractional administration of this agent. The patients to whom avertin was administrated as a basal narcotic are excluded. The average age of the patients was 37, the youngest 11 and the oldest 73. The agent was employed for all types of operations about the head and on several occasions was employed in thoracic surgery.

A list of the operations follows:

Bilateral ethmoidectomy	10
Bronchoscopy	7
Cauterization lingual tonsil	4
Enucleation of eye	1
Electro-Excis. neoplasm scalp	1
Electro-surgery of mouth	4
Esophagoscopy	3
Excision carcinoma of neck	1
External Killian	1
Extirpation of lacrimal cyst	3
Ligation int. carotid	1
Mastoidectomy	6
Radical antrum with extraction of teeth	4
Radical antrum	10
Repair cleft palate	1
Rib resection	6
Skin graft to scalp	1
Tonsillectomy	8
Thyroidectomy	11

In seven patients the anesthesia was incomplete, necessitating supplementary anesthesia at some time. Nitrous oxide was employed six times and nitrous oxide ether once. There were two complete failures.

Blood Pressure Reaction: Nine percent of the patients had no blood pressure reaction. A fall occurred in sixty-one percent of the administrations. The greatest fall was sixty millimeters of mercury and occurred in a cardiac patient whose pre-operative pressure was 210/110. This patient made an uneventful recovery. The average fall in pressure was twenty-five millimeters of mercury.

Twenty-nine percent of the patients exhibited a rise in blood pressure. The rise in pressure occurred almost entirely in two groups of patients—sinus surgery of the head in which adrenalin was employed, and thyroidectomies. The greatest rise was seventy millimeters of mercury and occurred in a toxic thyroid patient. This patient made an uneventful convalescence. The average rise was thirty-six millimeters of mercury.

Complications: Twenty-five of the patients were suffering from either varying degrees of bronchitis, lung abscess or pulmonary tuberculosis. In spite of this there occurred not a single post-operative pulmonary complication. Patients with kidney disease were excluded from this type of anesthesia. No kidney complications presented themselves. There occurred no injury to rectal mucosa. Post-operative delirium occurred in one patient. This patient required sedatives and restraint for four hours.

Six patients were anesthetized twice, three three times and one patient four times by this agent. No damage from repeated anesthesia was apparent.

Death occurred in one patient. This patient was a severe diabetic suffering from a huge abscess involving the chest wall and pleural cavity. Death occurred a few weeks after operation from septicemia.

Dosage: The amount of avertin necessary to give full surgical anesthesia in the above series of patients is shown in the following chart:

mgm./kilo	75	80	100	110	120	125	130
No. of pts.	1	1	10	15	25	20	11

Conclusions

Avertin is a valuable addition to our present day anesthetic agents. Its action on blood chemistry may be favorably compared with any other. Its action on the parenchymatous structures is negligible with the exception of its action on the liver and kidneys. Here, too, its action is not serious. Its greatest disadvantages lie first, in its unstable character, and second, in its limited ability of controllability. Careful handling of the agent will keep it stable. The method of fractional administration as advanced in

this paper, it is hoped, will lead to more accurate and careful dosage. Careful attention must be paid to the maintenance of a free and unobstructed airway. The post-anesthetic care is important.

Avertin at this time should not be used as a routine anesthetic agent. Its administration should be limited to its indications. It is the anesthetic agent of choice in a limited field but in this field it is unexcelled.

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By Dr. Frank S. Hale

253 Elmwood Ave., Providence, R. I.

Those of us who perform the cervical type of Caesarean section, have had an opportunity to study the lower uterine segment as it actually appears at full term pregnancy even with considerable advance of labor. When the part of the uterus just behind the bladder is exposed by separating the bladder well down and laterally, it gives access to a zone extending from the cervix upward for about 6 to 9 cm. This is known as the *Lower Uterine Segment.* The peritoneum over it or that portion not covered by the bladder is quite loosely attached. Underneath the peritoneum there is a distinct facia layer, and beneath that the muscle wall is quite thin. The upper boundary of this segment is recognized by the peritoneum abruptly becoming adherent. There are large transverse sinuses in the uterine wall, and the muscle is markedly thickened. This tissue boundary is commonly called *Bandl's Ring.* The segment from this ring to the internal os is termed the *Lower Uterine Segment.*

The origin before pregnancy of the lower uterine segment has been widely discussed. Older authorities claim that it was made up entirely from the cervix. Later theories indicate that it is developed from the lower part of the uterine body, and Aschoff in 1906 showed that tissue existed between the cervix and the uterine body, which he termed "isthmus." He claimed that this tissue developed during pregnancy into the lower uterine segment. From its cell composition, this seems to be quite conclusively proven. It is possible that some few fibers from the upper part of the cervix may go also into its formation. Histologically, there is quite a little difference in cell structure. The lining epithelium is more cuboidal than ordinary endometrium, and the muscle fibers have not as much variation in direction as in the uterine body proper. The musclature is not over half of its thickness, and the peritoneum is definitely less adherent.

The innervation of the lower uterine segment acts contrary to that of the main body. Whatever contractions occur are very weak—in fact, it actually has to dilate, or at least remain passive. Where these two segments meet, commonly called "Bandl's

*Read before the Rhode Island Medical Society, September 1, 1932.

Ring," the innervation control is very difficult to continue harmoniously throughout labor.

The presence of this condition has been recognized clinically and somewhat anatomically since nearly 1700. It is first mentioned by Braune, and at about the same time, Bandl spoke of its clinical significance. Bandl's description was mostly restricted to the physiological action. According to our present observation, he had a pretty conclusive idea of the work of this structure. Since that time, there have been varying facts and theories brought forward in regard to the action of this ring. The summary of our latest knowledge is as follows:

The partition of the pregnant uterus into an *active upper contracting segment* and *a passive lower relaxing segment* shows nature's adaptability of this organ to its function of expelling the foetus. The passive lower segment thins out and advances upward over the presenting part of the baby, as the cervix progressively opens. The ring or junction of these two zones is located in the beginning of labor at or just about the level of the pelvic inlet. In normal labor, this ring does not hinder the upward advance of the lower part of the uterus over the progressively downward advance of the baby. In too great upward retraction, the ring acts protectively to ward off, as long as possible, rupture of the uterus through the lower uterine segment. After the birth of the foetus, the ring helps to hold back the placenta long enough for normal separation to take place, and for the contracting uterus to close off the large blood sinuses. Thus, it is a protection against post-partum hemorrhage.

The pathological action of this ring has been given a great many names. As a general division, when retraction is spoken of, the action is considered more or less physiological. Contraction rings usually indicate hindrance, and therefore, pathological action. Practically all these entities can be brought under two general headings: 1. Where the ring is part of a general uterine spasm and retards labor only as part of this general tonic contraction. 2. Where the ring alone is in tonic spasm, the remainder of the uterus reacting normally. Here the ring is the primary cause of the dystocia, and definitely obstructs advance of the presenting part.

When the ring is part of general uterine retraction—that is, the entire uterus contracting down and remaining so—it stops the progress of labor. This condition usually occurs when the labor is prolonged, especially if the membranes have ruptured early, and also by excessive irritation or too frequent examinations. Premature attempts to hasten delivery by bagging or forceps may also produce the same effect. However, occasionally this condition arises when none of these things has been done. Improper innervation probably best explains the condition in such cases.

I will go on to describe the physical signs. The uterus is fairly hard but the foetal outline can be made out definitely. As this condition often occurs in the first stage with the cervix incompletely dilated, the cervix often becomes oedematous. No furrow occurs on the anterior abdominal wall; the ring does not rise and is located at or just below the pelvic inlet. The uterus is tender, continuous pain is felt low down and in front. The patient realizes that no progress is being made. If, in the first stage of a normal or especially dry labor, continuous pain low in front with a firm, tender uterus in which the foetus can be palpated and no rising furrow is noted across the anterior abdominal wall, general retraction of the uterus is quite obviously the cause of the delay.

Unhappily, in the old days, ergot and later pituitrin were often administered, mistaking the condition for inertia. The action of these drugs increased the tonicity of the uterus, often causing asphyxia of the baby and even rupturing the uterus. These cases call for relaxation. As soon as this condition is noted, I have usually given morphine 1/6 to 1/4 gr. DeLee advises that atrophine sulphate be also given if there is no idiosyncracy to the drug. Allow the patient to rest, omit examinations with the exception of watching the foetal heart, and labor quite often in a few hours will be resumed normally. This rest helps the baby, for as the uterus relaxes, placental circulation improves.

If the uterus does not relax, or if when labor is resumed it contracts tonically, intervention will be required. The choice of an anesthetic here is quite important. The general experience points to ether as the safest and most satisfactory. Spinal would not entirely control the sympathetic innervation, and with avertin, uterine contractions continue—therefore, there is insufficient relaxation. Chloroform, although rapid in action, needs to be carried too close to the danger line for proper safety. A competent anesthetist in these cases means as much as a competent operator. First, be sure that the uterus is absolutely relaxed before attempting delivery. If the internal os is not fully dilated, complete this dilatation manually. Now the labor is practically in the second stage. With vertex pre-

senting, the choice of forceps or version depends considerably upon the operator. My experience has been that usually if the head is above high mid-pelvis, version is more satisfactory. If at or below mid-pelvis, forceps, supplemented by pressure on the fundus, seem to work out best. Breech in this condition will show impaction—that is, the feet will be straight up, and if the breech is first manipulated upward gently, the extended legs will be brought down more easily. Pressure on the fundus will keep the head flexed and prevent the arms from extending over the head.

It is also important that the head be free in the cervix, and that deep ether be continued so that the ring will not contract around the neck. This deep ether is one of the most important factors in successful delivery of this type case.

Harper has pointed out that excessive traction, plus resistance of an incompletely relaxed lower uterine segment, extends the arms and is responsible for much of the foetal mortality in breech extractions.

The baby, after this type of delivery with deep anesthetic, will undoubtedly require considerable resuscitation. As the anesthesia is discontinued, the uterus usually reacts well.

Under the foregoing heading may be included general tetanus of the uterus, spasm uteri and myoclonia uteri.

The second group includes those cases in which the ring is the primary cause of obstruction, and this type is usually called "strictura uteri" or "hour-glass uterus."

Faulty innervation is basically the causative factor. The circular fibers of Bandl's ring contract into a thick band, grasping whatever part of the foetus intervenes, or they contract with the entire foetus above. The general outline of the uterus is ovoid. It is much firmer than in the preceding group; the foetal parts are difficult to palpate; the lower part of the uterus especially is tense and painful while the upper portion may continue very violent contractions. The special signs are: 1. Ovoid fundus irregularly contracting; 2. Hard, tender lower uterine segment. Vaginal examination produces extreme pain so unbearable that in some cases anesthesia may be necessary. Here the cervix quite often will be well dilated. To actually demonstrate the ring, the hand must be carried up to its location. There the ring will be felt as a sharp-edged crescent or complete ring. The membranes may or may not be ruptured, and often the presenting part, if caught just at or above the ring, will actually recede. Externally, no furrow may be seen —in fact, it seldom does show.

This condition is not always recognized. With a fully dilated uterus and the presenting part not progressing, forceps are often applied, and if a deep anesthetic is not given, traction accomplishes nothing except possibly injure the mother's tissues and fracture the baby's head.

If the membranes are intact and the foetal heart good, morphia will usually relax these cases, and the labor may terminate spontaneously—perhaps with the presence of contraction ring never having been realized. As with the *Retraction Group*, deep anesthesia and delivery is usually the most satisfactory treatment.

In the past few years, some of these cases have been delivered by abdominal section. The fact that an enclosed foetal head or breech has been delivered through an ordinary uterine incision, indicates that the anesthetic relaxed the ring, and in all probability, vaginal delivery could just as well have been accomplished. Sufficiently deep anesthesia will efface any contraction ring. Here again, competent administration is very important. Ether seems to be the safest, and may need to be quite prolonged, but the hazard of this is much less than the danger of a ruptured uterus.

Where Bandl's ring is shown in the protective role of capped uterus, attempting to delay rupture, the obstruction of progress is not due to the uterus but to a malformed, disproportionate pelvis or a primary abnormal position of the foetus. These are the cases that show the rising furrow across the abdominal wall. Often the entire foetus has been delivered into the lower uterine segment with the upper contracting portion doing its best to expel it. Here the ring is attempting to prevent uterine rupture, and if intervention is not soon brought about, rupture is imminent. I believe that often Caesarean section is indicated in this type of case if a disproportionate pelvis is the cause. Here laparotrachelotomy can be employed, and even if there has been manipulation, prognosis is favorable.

Finally, sometimes during the third stage of labor the ring may so rapidly and forcibly contract before the placenta is expelled as to incarcerate the placenta. Here again its action is physiological but is too pronounced. If Credé is not successful, anesthesia may be needed.

To compile statistics in regard to the incident of occurrence of the various types of Bandl's ring is almost impossible. Many cases have occurred without its presence having been recognized, and again, others simply have not been charted. Very difficult deliveries have been attributed to the excessive size of the baby or some degree of disproportion of the pelvis when the actual arrest of the foetus was due to contraction ring.

In conclusion, I would say that whether recognized or not, dystocia is quite frequently caused by the abnormal action of Bandl's ring. In such cases, two invariable factors are always present, namely: obstruction of labor and actual demonstration of a ring. With our present experience, ether has shown itself to be the best and safest anesthetic to relax and efface, and Caesarean section is best limited to very selective cases—essentially those with disproportionate measurements. Early recognition and proper treatment undoubtedly will greatly lessen the high foetal mortality of these cases.

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EDITORIALS

NEW MEDICAL PRACTICE ACT

Two bills relating to the practice of the Healing Art have been introduced into the general assembly. The aims and purposes of both bills are the same. Since several amendments to the original osteopathic and chiropractic acts have been passed from time to time giving to them all, or nearly all the privileges of a physician, it is time to require that all those who practice the Healing Art be required to show evidence by training and examination that they are able to recognize the kinds of diseases to which human beings are subject. It is utterly unsafe and the state should not allow people to consult a licensed practitioner who is not able to diagnose diseases, whatever method of treatment he may practice.

Changes in the acts governing physicians, osteopaths and chiropractors are imperative for the protection of the public, and it is to the interest of, and the moral obligation of, physicians to support these changes.

Those interested in these two bills are working on a substitute which will contain all that is best in them and include a revision of the present laws re-

lating to the practice of the Healing Arts. Probably the Health Commission will be given the authority to make or delegate to experts all the examinations, both the preliminary and licensing examinations, the other boards to be abolished. This would be a great step forward and will ensure both uniformity and efficiency. As soon as the new act is perfected and ready for the Judiciary Committee, to whom these bills have been referred, it will be published or copies sent to as many physicians as possible. It will then be the privilege and duty of each physician to use his influence to ensure the passage of the new act which means so much to the public health and to all physicians.

"COSTS OF MEDICAL CARE"

We have a profound admiration for the work of the Committee on the Cost of Medical Care; their work has been extensive, intensive, painstaking and analytical as set forth in their report recently issued. In the investigation of various fields, many of the interpretations have been masterly. The recommendations offered, however, appear to be at a decided variance with the country's medical needs. If their recommendations could have been directed and adapted to social and industrial fields to the end that people could earn money enough to pay their doctors, we feel that it would have been much more to the point.

And now more recently comes a "final report" which seems to be one of defense, at least as bearing upon the majority report, in which are quoted indorsements copied from various authorities, among which is the *N. E. Journal of Medicine* which, say the committee, represents the opinion of Maine, New Hampshire, Vermont, Massachusetts, Connecticut and Rhode Island as being "fair and constructive." We much regret this unfortunate and unexpected privilege of being caught in the dragnet of blanket indorsement inasmuch as the Rhode Island Medical Society and the individual members thereof have not endorsed the recommendations as set forth in the majority report, and we therefore regard the assertion (to be polite) as being frankly open to criticism. We cannot applaud this assumed liberty. In some localities and under some circumstances the recommendation of the majority report or some form of organized effort might be indicated but Rhode Island sees in it no economy, can visualize no workable plan or advantage and sees no hope of maintaining that personal human touch between physician and patient, generally speaking, and especially to medical needs of suburban and outlying districts, when the sick are treated by a few physicians, selected by whom or by what process we wot not, that are grouped around a hospital, which physicians are remunerated by some visionary process that is indefinite and veiled in mystery, by "taxation insurance or both." The proposition savors something of witchcraft but in this revolutionary astrolobe, one discerns a nebulous but socialistic aim.

We also note in this final report that an "unprejudiced" committee of three or four Doctors of Philosophy, a Certified Public Accountant and a lady whose authoritative status we know not of and whose reputation for administrative acumen has been so vagrant and elusive that it has not reached us, have passed upon the matter as to how the sick can best be taken care of and how the medical and allied professions can be used for this purpose.

If we cared to descend to flippancy we might suggest (just to give this committee weight in numbers) that the addition of a plumber, a Baptist and a vegetarian might also be induced to acclaim the virtue of its "unprejudiced" opinions. We have no desire to be accused of blatancy, however, and can only say that in its conclusions the method of procedure, the deductions arrived at, and the course advised by the major committee, are unfortunate.

A trained soldier entering a strange city is only interested in whether the training field is suitable to maneuver a fleet of tanks or how large a body of foot may be marshaled and be put through their paces upon the public square; the cultural attainments, the architectural and physical beauties other than this finds no place in his mental curriculum.

And by the same token we find a parallel analogue in men, even men of superior mental capacity urging through the press and over the radio the adoption of radical changes in medical care with as solemn an assurance and fervor as would be possible in pronouncing a deep seated religious truth. But it must be remembered that the physicians of the country, who have spent hundreds of thousands of dollars and have devoted certainly ten years of the best of their lives, often years of privations, even hardships, to fit themselves for a PROFESSION,

a profession devoted to alleviating pain and deferring death, whose beneficent helpfulness transcends any or all other agencies on earth, can hardly be expected to pose as makeshift tools in the hands of mistaken theorists.

AN OPPORTUNITY FOR PATRIOTIC SERVICE

With the possible exception of the occasional clergyman, perhaps no individual comes so close to the family and personal life of his client than the average physician. Even with the gradual disappearance of the old time family physician and the advent of the modern specialist, the doctor of medicine is still relied upon for his advice in matters that reach out beyond the realm of medical care. Our patients turn to us for encouragement in personal, community, and national problems and often make important personal decisions based upon our advice.

In these times of great national crises, with their widespread effect of unrest, undefined and unreasoning fear, and mental and financial depression, it is most important to be optimistic and encouraging.

All educated persons with level-headed estimates of present conditions realize that much needless suffering may be avoided if one will minimize the difficulties and allay public hysteria.

Now that the new administration has taken up the affairs of government, with new courage, a new point of view and perhaps a new resourcefulness, it is most necessary that it should have the whole support of the people disregarding party affiliations. The greater patriot always supports the administration in office.

We as physicians may well look seriously at our influence with our patients, and as we visit the homes seeing distress at first hand, it behooves us to suggest optimism, courage, and loyalty in our government. Let us create an ever growing wave of serenity and good feeling which will go far towards abating the mental distress which follows in the wake of the late depression.

American ingenuity has always been creative and not destructive, and American ingenuity will recreate a national prosperity in direct proportion to the courage and loyal support of its people.

TRANSURETHRAL PROSTATIC SURGERY

During the past few years a constantly increasing volume of material on the relief of prostatic obstruction by transurethral procedures has been appearing in medical literature. Since 1928 more than a hundred major articles on this subject were published, nearly half of these during the past year. The bulk of the published work to date has been that of American authors. The *piéce de resistance* of the last meeting of the American Urological Association was a symposium on this topic. It was marked by many enthusiastic and glowing reports, and not a little heated argument. There were even charges and counter-charges of plagiarism and copyright infringement among the inventors and proponents of the various devices and contraptions brought forward for the purpose of removing, through an endoscope, obstructions at the vesical neck, whether by punch, gouge, reamer, cutter, cautery, diathermy, massive fulguration, or a combination of these. By all of these alarums and excursions the matter has attained many aspects of a medical fad, with its frenzied enthusiasts crying abroad the merits of their respective instruments and flaunting their case reports before the staid and stolid advocates of radical prostatectomy like picadors in the arena. And close behind them (or did they come first?) are the manufacturers of the expensive equipment necessary for this operation, exploiting commercially both the instruments and the good names of their inventors in terms that make the wildest thoughts of the veriest zealot seem conservative by comparison.

Why has this procedure leapt thus suddenly into the limelight? Why its spectacular increase in popularity? The idea is not a new one. A century ago one Guthrie of London used a knife sheathed in a catheter for cutting what he termed "bar at the neck of the bladder." Various others developed similar incisors or excisors, and in 1874 Bottini made an electro-cautery instrument, which Freudenberg in 1897 improved by combining it with the irrigating cystoscope. The first of the modern instruments, the prostatic punch of Hugh Young, was described nearly twenty-five years ago, and the high frequency current principle was introduced only a few years later (Beer, 1910; Stevens, 1913; Luys, 1913). The instruments at present rec-

ommended for this operation are legion. Prominent among them are those of Caulk, Foley, McCarthy, T. M. Davis, Braasch (Tyvand-Bumpus), Collings, Ryall, and others. All of these combine essentially the cutting and electrocoagulation of tissue under vision, with removal of the excised portions through the endoscope sheath. For each of them their respective inventors claim peculiar advantages.

The whole question at the present time may reasonably be said to be in a state of flux. There is disagreement even among the enthusiasts as to just what classes of prostatic cases are amenable to this form of treatment: whether it be applicable to the early obstructions only or to the later ones as well; whether malignant or only benign conditions should be attacked with it, and so on *ad infinitum*. There is marked difference of opinion over technical details of treatment in any given case, and how a given technique may be used to the best advantage. One of the sages at the last urological conclave made the would-be conciliatory remark that the choice of instruments was largely a personal matter depending on the operator's individual idiosyncrasies as in the choice of golf clubs, "where one man would use a mashie for a given shot another might use a niblick." And, we might add, still others would use a putter or a tennis racquet. Happily all authorities are generally agreed that the procedure is a real operation, carrying a definite mortality; not to be undertaken by the tyro nor inadvisedly even by the experienced; that patients need careful preoperative preparation and post-operative management exactly as for radical prostatectomy; and that the method is not a panacea.

From the foregoing it is evident that an exact evaluation of transurethral surgery of the prostate is at present impossible. What its eventual place will be in the armamentarium of the urologist time alone will tell. That out of the existing confusion and disagreement there will eventually emerge something good and useful seems a reasonable assumption. In the meantime, whether our personal prejudices prompt us to condemn the procedure or accept the tenets of the enthusiasts at their face value, let our watchword and our shibboleth be *festina lente*.

OBITUARY

Dr. Cornelius J. Mahoney

It is our sad duty to record the death of Doctor Cornelius J. Mahoney (more familiarly known to his friends as Doctor Neil), at his home, 83 Governor Street, January 3, 1933.

Doctor Mahoney was born in East Providence, January 30, 1875, and later moved to Providence with his family. He was educated in the public schools of Providence, La Salle Academy, St. Michael's College in Toronto, and graduated from Harvard Medical School in 1898. After serving an interneship in St. Joseph's Hospital, he practiced medicine in Providence (with the exception of a year spent in practice in Colorado) continuously up to a short time before his death. He enjoyed a very extensive private practice, he was greatly devoted to his work, never too tired to answer calls of distress, he was always very considerate in his dealings with his fellow practitioners and was very much beloved by his patients.

In 1902, Doctor Mahoney married Miss Mary Clogher of Boston, who, with one daughter, Miss Celia Mahoney, a teacher of French in the Nathan Bishop Junior High School, survive him.

Doctor Mahoney was a member of the Providence Medical Association, Rhode Island Medical Society and American Medical Association. He was also affiliated with the B. P. O. Elks, the Catholic Club and the Metacomet Golf Club.

Henry J. Hoye, M.D.
J. C. O'Connell, M.D.

Dr. Gordon Rice Barden

Dr. George Rice Barden was born in Scituate, R. I., September 7, 1867, the son of James A. and Dorothea Barber Barden. As a boy he worked on a farm and attended the district school during the winter. After his elementary training in the rural school his desire for learning prompted him to enter the Providence High School, and he often walked from Scituate to Providence and home again on week-ends. After one year in the high

school he entered East Greenwich Academy, where he paid his tuition and board by working. When he completed his work there he taught school for two years in order to obtain money with which to pursue the study of medicine. He entered Bellevue Medical College in New York City and was graduated therefrom March 23, 1896.

He commenced practice in Rockland, R. I., and soon built up a profitable practice throughout the towns of Scituate and Foster. After two years in Rockland he saw an opportunity to increase his practice by moving to Apponaug, R. I. While in Apponaug he was prominent in town politics and served on the town council and as town physician. In order that people might be able to secure necessary medical supplies he opened and conducted a pharmacy in Apponaug.

In 1902 he sold his business in Apponaug in order to fulfill his desire for a hospital training. He entered Columbus Hospital in New York City and served three years as an interne. During this period he completed a course in the New York Post Graduate Hospital. He returned to Providence April 1, 1905, and opened offices on Elmwood Avenue. He enjoyed an increasingly satisfactory practice, and his admirable qualities won him ready recognition. He became surgeon of St. Joseph's Hospital in Providence and also served as surgeon to the Rhode Island State Institutions. On October 27, 1916, he was elected a Fellow of the American College of Surgeons. For several years before his death he held the position of consulting surgeon to St. Joseph's Hospital.

Dr. Barden was a man of sound judgment and had a keen analytical mind, which contributed greatly to his success in his profession. He was a tireless student of matters pertaining to medicine and surgery and enjoyed a large following of loyal patients.

On January 24 he contracted influenza and on the 26th developed a streptococcus infection of the leg, to which he succumbed Sunday morning, January 29, 1933.

He is survived by his widow, Mrs. Corinne Spink (Dyer) Barden; two brothers, Howard and Everett Barden; and two daughters, Dorothea and Antoinette Barden.

Walter C. Gordon
Albert H. Miller
Committee

Richard Francis Duncan, B.S., M.D.

Richard F. Duncan was born in Williamstown, Massachusetts, on July 20, 1865. He prepared for college in the local schools and entered Massachusetts State College in the fall of 1882 and was graduated in 1886 with the degree of Bachelor of Science. In his college days Duncan, who was possessed of an unusually powerful physique, gained more than local fame for his feats of strength; he excelled in football, fencing, boxing and wrestling. He earned his M.D. degree at Albany Medical College in 1889. Dr. Duncan after his graduation practiced for a time in Poughkeepsie, N. Y., coming to Providence about the year 1892. He was fond of travel and in his young manhood he traveled extensively in the East Indies, the West Indies, and in South America.

About twenty years ago, Dr. Duncan became interested in ophthalmology and did post-graduate work in this subject at Harvard University. He has served in the eye departments of the Rhode Island Hospital, St. Joseph's Hospital and Sayles Memorial Hospital, and until his death, on December 9 last, he was refractionist in the eye out-patient department of the Rhode Island Hospital.

He was a member of the Providence Medical Association, the Rhode Island Medical Society, and also of a number of fraternal organizations.

Three years ago Dr. Duncan married Miss Ida Howard, who survives him.

Harry C. Messinger
Frank J. McCabe
Committee

SOCIETIES

The Rhode Island Medical Society

The regular quarterly meeting of the Rhode Island Medical Society was held Thursday, March 2, 1933, at the Medical Library Building, and was called to order at 4 P. M. by the President, Dr. N. Darrell Harvey. The minutes of the February meeting of the Council, and the House of Delegates were read by the Secretary and adopted.

The President called the attention of the Fellows to the deaths of the following Fellows since the last meeting:

Dr. R. F. Duncan, died Dec. 9, 1932; Dr. C. J. Mahoney, died Jan. 3, 1933; Dr. G. R. Barden, died Jan. 29, 1933; Dr. Gilbert Houston, died Feb. 21, 1933. He referred the matter to the Committee on Necrology.

The following program was then presented:

Papers: 1. "Modern Ideas in Regard to Epilepsy," Dr. Wm. N. Hughes, Providence. Discussion opened by Dr. Sanborn and continued by Drs. G. S. Mathews, and Corson.

2. "The Clinical Diagnosis of Hypo-pituitarism, Its Relation, Medical Practice and Its Limitations as to Treatment," Dr. Jay Perkins, Providence. Discussion opened by Dr. Niles Westcott and continued by Drs. McCann and Corvese, and J. E. Brown.

3. "Review of Recent Scarlet Fever Literature," Dr. L. J. Smith, West Warwick. Discussion by Dr. Richardson.

The President requested that any Fellows who desired to present a paper at the annual meeting of the Society notify him, and also stated that he would be glad to receive any suggestions as to essayists from outside the state for the annual meeting.

The President also called attention to the dinner which was given on February 20 at the Hotel Biltmore in honor of Dr. Edward H. Cary, President of the American Medical Association. Dr. Cary was the guest of the RHODE ISLAND MEDICAL JOURNAL, which sponsored the dinner. Dr. Cary made an address dealing with the reports of the Committee on the Costs of Medical Care. Judge Ira Lloyd Letts, U. S. Justice of the District of Rhode Island, was the other speaker. Following the addresses, Dr. Frederick N. Brown, editor of the RHODE ISLAND MEDICAL JOURNAL, who acted as toastmaster, presented Dr. Cary on behalf of the JOURNAL a gold mounted brief case.

Upon adjournment a collation was served.

Respectfully submitted,

J. W. LEECH, M.D., *Secretary*

THE PROVIDENCE MEDICAL ASSOCIATION

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. James W. Leech, Monday evening, February 6, 1933, at 8:50 P. M. The records of the previous meeting were read and approved. The standing committee having approved their applications, the following were elected to membership in the Association: Ira C. Nichols, Gustave Pozzi, Arthur L. Springer, Nathan S. Rakatansky and Harrison F. Hyer.

Dr. Frederick N. Brown announced that Dr. E. F. Cary, President of the American Medical Association, would be guest of honor at the annual dinner of the RHODE ISLAND MEDICAL JOURNAL staff. In view of the importance of the speaker and his subject, "Some Phases of the Report of the Committee on the Costs of Medical Care," it has been decided to invite to the dinner all members of the Rhode Island Medical Society and of the Providence Medical Association. This dinner will take place on February 20, 1933, at the Biltmore Hotel and the subscription will be $3.00.

Dr. Kasanin, clinical director at the State Hospital for Mental Diseases, then presented a very interesting specimen of melanosarcoma in the brain. The patient was a farmer of 48 years who had a small pigmented mole between the shoulders. This was removed by tying a string about it, and a generalized melanosarcomatosis resulted. The brain, which was presented, showed a general and very diffuse involvement of the pia and arachnoid, giving the brain a very curious blackened appearance.

The first communication of the evening was by Dr. Frank S. Hale on the subject, "Progress Toward Voluntary Sex Determination." He pointed out that Dorn and Sugarman have developed a test, using the injection of 10 c.c. of urine from a pregnant woman into the ear vein of a rabbit at puberty. If the fetus is a female, a very precocious development of the rabbit's testis occurs within 48 hours. This test, in the hands of its originators, was accurate in 80 out of 85 cases tested. Some investigators have felt that the time of coitus in relation to the menstrual cycle is of importance, more males resulting if coitus just pre-

cedes menstruation. Others have felt that alkalinization of the vagina at coitus will result in a greater proportion of males. Dr. Hale concluded that serological tests of pregnancy are being developed to a considerable degree of accuracy, but that the voluntary determination of sex is still uncertain. The paper was discussed by Drs. Appleton, Waterman and Hale.

The second paper, on "The Use of the Cutting Current in the Treatment of Endocervicitis (Hyams' Conization of the Cervix)," was read by Dr. George W. Waterman in the absence of the author, Dr. Mario Castallo, who was kept at home by illness.

Dr. Castallo's paper first discussed the anatomy and histology of the cervix, together with the pathological findings in endocervicitis. He pointed out that the natural mode of healing is the occlusion and obliteration of diseased glands, and that this should be aimed at in any method of treatment. Hyams accomplishes this by the use of a special electrode delivering a cutting current, used after topical application of 50% cocaine. Cervix and vagina are wiped dry and all endocervical mucosa is removed by means of the electric current. Bleeding is controlled by coagulating current. The patient is usually able to continue her ordinary activity and complete healing occurs in about six weeks. The author concluded that this method gives a good ambulatory method of treating a common gynecological disorder. The paper was illustrated by a number of lantern slides. Dr. Noyes opened the discussion, stressing the importance of this method in the nulliparous cervix, and the rarity of stenosis following its use. Discussion was continued by Drs. McCann, Hale and Waterman.

Three members of the Association having died since the last meeting, memorials were presented as follows:

Dr. R. F. Duncan, by Drs. Frank McCabe and Harry Messinger.

Dr. C. J. Mahoney, by Drs. J. C. O'Connell and Henry Hoye.

Dr. G. R. Barden, by Drs. W. C. Gordon and Albert Miller.

It was voted to spread these memorials on the records and to send copies to the relatives of the deceased members.

The meeting adjourned at 10:35 P. M. Collation was served. Attendance, 125.

Respectfully submitted,

WILFRED PICKLES, M.D.,
Secretary Pro Tem.

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. James W. Leech, March 6, 1933, at 9:50 P. M. The records of the last meeting were read and approved. A letter from Dr. M. A. Castallo was read. Dr. Russell R. Hunt was elected to membership.

The first paper of the evening was read by Dr. Harris Moak, National Secretary of the American Association of Milk Commissions, New York, on "Certified Milk." Milk is the first and often the last food of life. It is forty years since the first plan for certified milk was found. Certified milk is fresh whole milk untreated, sold within twenty-four hours, kept at proper heat and produced under uniform standards, controlled and certified by medical commissions. Keeping bacteria out is the keystone. All cows are tested for tuberculosis, septic abortion and other diseases. Careful control and weekly inspection of all handlers of the milk are required. All the milk used in the typhoid epidemic at Montreal had been pasteurized but then handled by two carriers. Governmental control he does not think is sufficient. The nutritional value of milk in mother and child was accentuated and analyzed. To reach the proper standard the food of the cow must be properly balanced. Dr. Chapin says milk is a physiological fluid, not a mere mixture. The content of vitamins and nutritional matters in milk can be now regulated by feeding and very appreciable amounts of vitamin D are now produced in certified milks.

The paper was discussed by Dr. Buffum, Chairman of the Certified Milk Commission, Professor Frederick P. Gorham, Deputy Milk Inspector of Providence, Dr. Utter and Dr. Moak.

The second paper was by Dr. Walter G. Weigner, on "Physical Symptoms from Psychological Sources." This was a well presented plea for the careful consideration of psychological aspects of patients presenting symptoms of apparent organic pathology. A case was reported that had an appendectomy after a year of intermittent abdominal pain and nausea and had not received relief. Desire to avoid her nursing career apparently was the ultimate cause and her symptoms ceased when she gave up this career. He discussed the psychological aspects of several common conditions. The paper was discussed by Drs. Ruggles, McDonald, A. P. Noyes, Lott, Bray, Hopkins, Gray and Weigner.

The meeting adjourned at 11:10 P. M. Attendance, 132. Collation was served.

Respectfully submitted,

PETER PINEO CHASE,
Secretary

HOSPITALS

ST. JOSEPH'S HOSPITAL

A meeting of St. Joseph's Hospital Staff Association was held in the new auditorium February 9, 1933, called to order by Dr. Earl F. Kelly, acting President, at 9 P. M.

The first paper of the evening was read by Dr. Andrew W. Mahoney of Providence, on "Ectopic Pregnancy." The discussion of this very interesting paper was presented by Dr. Wm. McQuirk and Dr. Ira Noyes.

The second paper of the evening was read by Dr. John R. Bernardo of Bristol, on "Some Causes of Uterine Hemorrhage." This paper covered in detail the most of the causes of uterine bleeding. The discussion was by Dr. James Clune, Dr. Wm. McQuirk, Dr. Ira Noyes, and Dr. Frank Hale.

The two papers of the evening were given by the gynecological department of the hospital.

There were 56 members present, and at the close of the papers a collation was served by the hospital to the members.

Respectfully submitted,

EARL F. KELLY, *Secretary*

BOOK REVIEWS

ONE HOUR OF MEDICAL HISTORY, Vol. 2, by Benjamin Spector, M.D. Beacon Press, Inc.

The book is compiled from a pageant given by students of Tufts Medical College under the direction of Dr. Spector. Students represent dramatically some renowned figure or event in medicine. The present volume portrays Golen, Avicuma, John Hunter, Claude Bernard, Madame Curie and several others. It is a small book, can be carried in the pocket, has excellent print and paper, is entertaining and well worth reading. Recommended.

SYNOPSIS OF GYNECOLOGY. H. S. Crossen, M.D. C. V. Mosby Co., 1932, Publishers.

A small book, which readily fits the pocket, intended for medical students, it contains within its 200 odd pages of closely printed matter and illustrations, a most excellent summary of modern methods and thought in gynecology. Beginning with well thought out and illustrated instructions for careful pelvic examination and the description of various of the more recent tests for tubal patency, etc., the student is carried on through chapters on diagnosis pathology and treatment, including all the more important gynecological disorders. Excellent chapters on pelvic inflammations and new growths are included. A very nicely condensed chapter, which brings quite thoroughly up-to-date the position of the endocrines, seems quite in line with the clearcut and forceful style of the rest of the book.

A book which will be a great boon to the student but might be of great help also to the busy practitioner or even specialist in clarifying what is at present known about gynecology.

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